

# The Automobile Speaks

It tells you what it is, what it requires and it asks to be treated fairly.

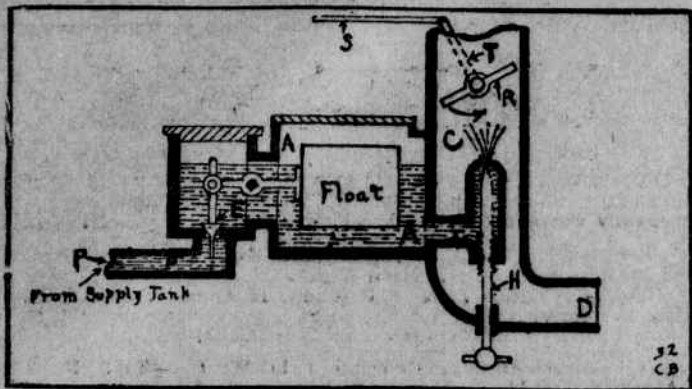
By Frederick C. Guerlich.

Number 32.

## THE CARBURETER (Continued).

In my last talk I told you how the gasoline is made to spray out of the nozzle of my carbureter, how it is mixed with air, and how, by controlling the opening of the nozzle, the quantity of gasoline to air is controlled. I also told you that the nozzle opening must be about 1-32 of an inch above the level of the gasoline in the float or supply chamber. Let me now tell you how this level is maintained.

You will understand that if the float shown in the illustration were resting on the bottom of the chamber "A" the needle "E" would be lifted and so the opening "O" be unobstructed. The gasoline could then flow in from the pipe "P", which is connected to the supply tank. As it enters it will raise the



float until it is at such a height as to press down on the needle (through the lever) and so close the opening of the pipe "P".

If gasoline be drawn from the chamber through the spray nozzle the level will tend to lower and so the float tend to drop. In doing so it will raise the needle and thus permit fresh gasoline to enter until the gasoline drawn through the nozzle has been replaced and the old level is reestablished. So you see the level of the gasoline in the chamber "A" will be maintained by the action of the float and its needle. The latter with the float and the opening it controls is called the float valve.

To go over the action of the carbureter as far as we have studied it (which would be a fair carbureter for a constant speed engine) we see that when the engine is on its suction stroke a vacuum is created which will extend to the manifold and the carbureter, thus causing a spray of gasoline to issue from the nozzle at the same time that there is a rush of air through the opening "B", which air, as it goes to the cylinder, will pick up and mix with the spraying gasoline, thus causing an explosive mixture to enter the cylinders. As the gasoline sprays out of the nozzle the level in the float chamber will be lowered and thus the float to drop, causing the needle "E" to rise, and so the opening "P" be unobstructed by the needle. Fresh gasoline will thus enter the float chamber to take the place of that carried to the cylinders.

The carbureter, as explained so far, would be all right for a single speed, uniform load engine, but the engine of the automobile must have many speeds and be able to overcome varying loads. There must, therefore, be a number of additions to the carbureter as explained so far.

First, let us see how the speed of the engine is varied. This is done by means of a throttle or butterfly valve "R", which, when nearly closed, will allow but a small amount of the mixture to pass and enter the cylinders, thus giving but a mild explosion. When the throttle is fully opened, however, a full charge of mixture will reach the cylinders and the explosion will be powerful. When the explosion is powerful the piston will be driven down faster than with the milder explosion, and so the engine and car speed will be greater.

The throttle or butterfly valve is operated by hand by a lever on top of the steering column, or by the foot pressing on the accelerator. Both of these, through a series of bell cranks and sliding connections, operate on the rod "S", pushing it to the right or left. You will note that when the rod "S" is moved to the right it will, by acting on the lever "T" (shown dotted), revolve the butterfly valve "R" in a direction opposite to that shown by the arrow, thus checking the flow of the mixture, while when it is moved to the left it will open the butterfly and so let the full charge reach the cylinders. When we give the engine "more gas," as the saying is, we open the throttle or butterfly as explained above.

Will this throttle affect the mixture? When the butterfly "R" is nearly

## PLANS COMPLETED FOR DEALERS' SHOW

Fine Closed Car Exhibit Will Open on November 14.

The Automobile Dealers Association, Inc., of New York, will hold a closed body exhibition in the Twelfth Regiment Armory, Sixty-second street and Columbus avenue, from Nov. 14 to 19.

That the New York representatives of the second largest industry in the United States have decided to hold their second automobile show to stimulate business is of utmost interest.

The show will be held in a building peculiarly suited to the purpose, the Twelfth Infantry Armory, Sixty-second street, corner of Columbus avenue, which is a central location right in the heart of Automobile Row, only 200 feet west of Broadway. It will run from 11 A. M. to 11 P. M. Every important make of closed cars in the United States will be represented and some unique features will be shown in the form of interior fittings which cannot fail to be of interest to every student of automotive production.

Already the show committee, of which C. H. Larson (Oldsmobile and Sheridan) is chairman, is busy at work on the details of the exposition, and he is assisted by W. A. Wood (Peelless), president of the association; W. C. Poertner (National and Durant); A. G. Southworth (Buick); L. J. Eastman (Packard) and H. S. Houtp (Hudson and Essex).

A sanction for the show has been granted by the National Automobile Chamber of Commerce. Drawings for space by the different dealers will be held at the rooms of the Dealers Association at 1845 Broadway on Wednesday, Nov. 2, at 12:30 P. M., when luncheon will be served.

## J. J. COLE EXPLAINS CUT IN PRICE OF COLE 8

J. J. Cole, president of the Cole Motor Car Company, in announcing that the Cole Aero-Eight has been reduced to \$2,435, said:

The price of the Cole Aero-Eight new 890 model is now approximately \$110 less than the price of the old Cole Aero-Eight in 1918, when it was first put on the market. This price has been established on a basis of cost replacement on materials now on hand and represents as nearly as can be estimated the lowest cost at which Cole cars can ever sell.

It is the firm conviction of the officials of the Cole company that a general resumption of business is in sight. Plans are now being laid for an active selling and advertising campaign involving strong support of the Cole dealer in his own territory.

## Auto Row Close Ups

By B. S. B.

Passing the Franklin headquarters these days one sees a touring model equipped with a novel demonstrating device. It is a quart bottle mounted on the front left fender from which the carburetor is fed with gasoline. Prospects are astonished at the distance the car will travel on a quart. When the Old Soak was told of this demonstration he said:

"What interests me most these days is not how far you can travel on a quart, but how far you can travel with a quart."

During the past week or so there has been an epidemic of record breaking performances by various cars.

Establishing a new speed mark for the "Waterloo of motorists" and winning each of the four events in which they were entered, Peerless cars triumphed over a field of fast cars in the annual Viekerman's hill climb at Utica, N. Y., according to despatches received from the Peerless Motor Car Company. In the four events in which they entered Peerless cars won four firsts, three seconds and two thirds.

Twenty thousand spectators were thrilled when Ernest P. Robleson drove the Peerless "Green Dragon" over the two and two-fifths miles of stubborn grades and tortuous turns and shot over the crest of the hill in the record smacking time of 2 minutes 12 seconds.

Driving his famous Templar "Re-cruiter," "Cannonball" Baker recently set another intercity record by making the 25.3 miles between Akron and Cleveland in 25 minutes and 25 seconds.

A Willis Sainte Claire car, with four men and 800 pounds of baggage, made a record run from St. Paul, Minn., to Kansas City, Mo., October 19, covering the distance of 698 miles in 17 hours and 22 minutes total elapsed time. The fastest train time between these two cities is 20 hours and 30 minutes.

Driven by the Atlanta dealer for the Lexington Motor Company, a Lexington made the 374 miles from Atlanta to Jacksonville in competition with the famous Dixie Flyer's time, one of the fastest railroad trains in the country. The Lexington arrived in Jacksonville 30 minutes ahead of the Dixie Flyer's schedule. And this notwithstanding that the route taken by the Lexington was 30 miles longer than the rail route.

Some embryonic mechanical engineer in our composing room apparently didn't like our statement that the angle between the cylinders of the Daniels eight is 84 degrees and that this angle eliminated the "dead center" prevented cross vibration, so he changed it to 80 degrees—which is not correct. That, and the fact that the proofroom sided and abetted the M. E. accounts for the mistake made in this column last week.

One of the features of the recent Danbury, Conn. fair that interested thousands of owners of automobiles was a demonstration by the Acheson Oiladg Company of the unusual lubricant known as "Oldag." An automobile in which this lubricant had been used for

closed the mixture will be checked by it and so sort of pile up in the mixing chamber "C", and thus greatly reduce the vacuum here. Thus the spray from the nozzle and the air entering at "D" will both be reduced. If, however, the throttle is opened to allow, say, twice the amount of mixture to pass, then the "piling up" action will not be so great, there will be greater vacuum, the spray will be greater and the amount of air entering at "D" will be greater. The proportion of gas to air, however, will not be the same as before, because the resistance of the opening "D" and the friction of the walls will tend to check the flow of the incoming air more than the resistance of the nozzle opening will check the gasoline. Thus, as the throttle is opened the mixture will constantly become richer.

The mixture entering the cylinders must always be in the same proportion of gas and air. Therefore, the carbureter as above will not do and something must be added to allow more air to enter at the higher speeds. How this is accomplished will be shown in the next talk.

## THE NEW MAXWELLS MAKE A BIG STR

Sensational Exhibit at Columbus Circle Attracts Unusual Crowds at Once.

The expectation that the new organization which assumed control of the Maxwell interests a year ago would produce a motor car worthy of the resources and strength of the new company, is fully realized in the new series of the good Maxwell now on exhibition at the showrooms of the Maxwell-Chalmers Distributing Corporation, 1808 Broadway at Fifty-ninth street. In both the closed and open models of this Maxwell is seen a distinct advance in motor car design and construction.

It is a finer car than preceding Maxwells, retaining and improving upon the good mechanical points which gave the good Maxwell such a name for serviceability, low costs and good performance. Its beauty of line sets it off in any company, and the fittings and details of construction are in strict keeping with its remarkable beauty. The radiator has been moved slightly forward to give greater body length and is larger, thus raising the hood and giving an appearance of strength and massiveness at the front end.

Drum type head lamps, nickel trimmed, of the type used on cars of the costliest range, give an added dash of beauty and good style. Disc steel wheels, demountable at the hub and rim, are standard equipment on all models, although on the touring car and roadster, wood wheels are optional. Straight axle cord tires, 21x4 inches, are standard equipment and so is Aletto chassis lubrication.

Riding comfort has been given particular attention. The back cushions of the seats were especially designed on a new principle: the springs are longer, and the car is lower without sacrifice of head room.

The open cars are upholstered in real leather and the enclosed models in a special broadcloth. The touring car and roadster are fitted with newly designed curtains that open with the doors and which attach to the body by means of special fasteners which operate easily. A modern feature of the open models is the plate glass window in the rear, and in the touring car there is a special compartment in the rear of the front seat for storing the side curtains.

In all models careful consideration has been given to the placing of the steering wheel, pedals and control levers, so that the car is extremely easy to handle and driving comfort is assured.

The sedan and coupe will undoubtedly take their place among the country's finer cars produced, without regard to price. The windows are mounted in rubber strips to insure against rattle, and a small button on three of the interior door handles operates the lock from the inside, while the right front door is locked from the outside with a key.

Joe Grondahl, who is now a golf ball manufacturer, told us a week ago he was also a golf player. Last Sunday on the links we got the truth. He is only a golf ball manufacturer.

## Broken Rivet.

In case a rivet in the frame or other location is found to be broken, a very acceptable repair may be made by running a bolt through the rivet hole and clinching it with a nut on the other end.

## HARRY HOUPP REPORTS BIG INTEREST IN ESSEX

"That the new price on Essex cars aroused keen interest was indicated by our greatly increased sales of Essex cars last week," says Harry S. Haupt, the Hudson and Essex distributor.

"The new prices mark a reduction of \$600 on open models since September of last year, and \$250 since June of this year, and the present price is \$180 lower than the Essex has ever sold for. Of added interest to the buyer is the fact that those new and lower prices apply to the new and improved model that retains all the advantages of the old Essex, together with smoother operation, greater reliability and freedom from service attention which are combined in the new car.

"The original appeal of the Essex car was to those who wanted a larger car performance and reliability with small operating economy at low cost. "More than 50,000 Essex cars are now in use, and the new prices enlarge the field of the appeal to thousands of new customers."

## BIG CUT IN PRICE OF FEDERAL TRUCK LINE

The largest cut in motor truck prices so far announced is by the Federal Motor Truck Company, Detroit, Mich. The price reduction averages about 23 per cent. on all models, this being the fourth cut this company has made within the last two years.

Reductions on all models are as follows: \$700 on the 1 to 1 1/2 ton, \$550 on the 1 1/2 to 2 ton, \$600 on the 2 to 2 1/2 ton, \$800 on the 3 1/2 to 4 ton, \$850 on the 5 to 6 ton. Reductions of \$600 to \$800 respectively were announced on the light and heavy duty tractors.

M. L. Pulcher, vice-president and general manager of the company, emphasized that the new prices were not "cuts" in the accepted sense of the word. Rather, they represented the final accomplishment of a plan which his company has been developing for a period of years.

## PACKARD SIX PRICE SUBSTANTIALLY CUT

The recently announced reduction of \$625 in the price of all models of the Packard single-six car brings the touring car and runabout down to \$2,350, the coupe to \$2,125 and the sedan to \$2,350. This represents on the touring car a reduction of 35.4 per cent. from the originally announced price. The single-six was brought out a year ago at \$3,640. That was reduced on November 1, 1920, to \$2,975, which was maintained until this latest decrease went into effect. The new price is therefore a reduction of \$1,290 in less than a year. On July 5 last the sedan was reduced from \$4,550 to \$3,975 and the recent cut brings the total reduction to \$900.

"This new figure is the lowest price at which a Packard car was ever offered during the twenty years we have produced the highest grade cars," says Lee J. Eastman, president of the Packard Motor Car Company of New York. "The single-six has been on the market for a year and has won unanimous indorsement and unstinted praise."

## FINAL PRICE CUT ON HUPMOBILE LINE

Final price reductions of \$530 to \$790 on the line of Hupmobile cars was announced by the Van Alstyne Motor Corporation of 1876 Broadway, New York distributors, effective October 25.

The reductions are as follows: Touring, formerly \$1,770, now \$1,350; roadster, formerly \$1,770, now \$1,250; coupe, formerly \$2,310, now \$2,100; sedan, formerly \$2,480, now \$2,150.

## CLOSED CAR AUTOMOBILE SHOW

Latest Creations in the Coach Builders Art

NOVEMBER 14th to 19th 11 A.M. to 4 P.M.

12th Infantry ARMORY 62nd Street cor Columbus Ave

Admission Free

# you'll never know till you drive the New JORDAN

Thousands of people in this country have never known what a motor car thrill is—till they drove this new Jordan.

Only after you know this rare and fascinating experience will you be able to judge its exceptional personality.

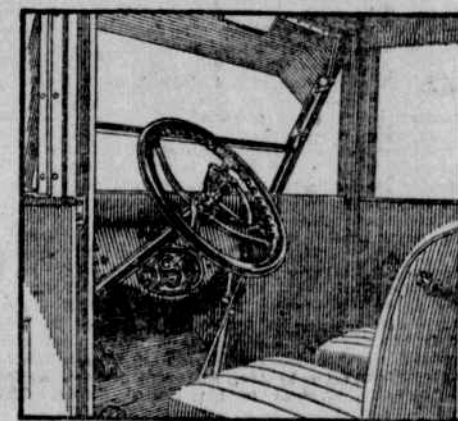
It's equipped with a new, powerful, exclusively Jordan motor—chain driven of course. You'll discover a nimble, electrifying something in this car which small boys call "a wallop."

Those who know value claim it's the best car that can be built at the price.

Comfort—no fatigue, just relaxation. Balance—it hugs the road, no sideway.

It set the motor car style standard. Every body distinctive—that's style.

Performance—never varies in its day-in-and-day-out faithful duty. Gives 20 miles to the gallon.



Interior of New Jordan Brougham showing instruments under glass.

In fact it's the motor car of the future. It is truly built to endure—to satisfy—to give highest motor car value at any price.

Only a ride in this new Jordan portrays its merits.

Come—drive the new Jordan yourself.

NEW JORDAN PRICES  
Silhouette . . . \$2095    Playboy . . . \$2095  
Landaulet . . . 2995    Sedan . . . 3200  
Brougham . . . \$3200  
Price F.O.B. Factory

Dealers—No matter where you are—write or wire—your territory may be open

The best car that can be built at the price. BUY NOW with confidence

Sherwood Automobile Corp.,

Broadway at 63rd Street

New York City

Telephone Columbus 6812

Bronx Agency, 157 East 149th St.

Atlantic Avenue at Bedford

Brooklyn, New York

Prospect 4800

# JORDAN

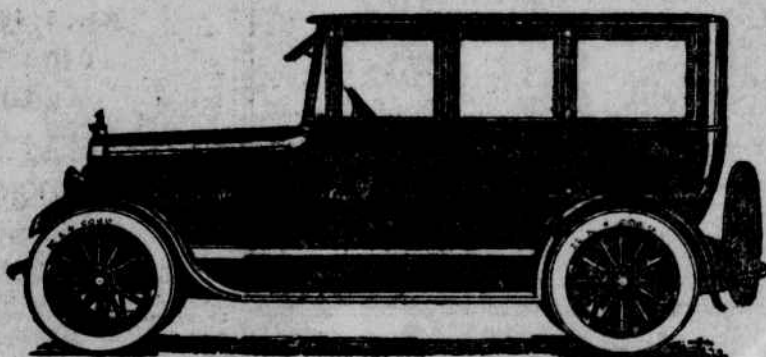
JORDAN MOTOR CAR COMPANY, INC., Cleveland, Ohio

"Built of the Best"

DAVIS

The SEDAN

\$2595



## \$500 Lower Than Last December

Effective October 31st, Davis prices are again reduced to new low levels

NEVER BEFORE has a car of Davis quality been sold for a price so low.

Check these specifications and see if any car, similarly equipped, similarly designed, offers as much for your money!

Continental 7R Motor, Timken axles, Borg & Beck clutch, Warner Corporation transmission, Delco starting-lighting-ignition—the proved best of everything!

Many cars have one or two of these master units for a "selling point." The Davis has all of them. "Built of the Best" is our policy—and a fact.

Compare this equipment with that of any car: Gabriel Snubbers (front and rear), two bumpers (front and rear), 4 U. S. Royal Cord tires, Motor-meter, winged aluminum radiator cap, clear-vision side curtains that open with the doors, nickel-plated protector rods on rear body panels. The Davis is completely equipped. There is nothing extra to buy.

DAVIS MOTOR CORPORATION

1748 Broadway, near 56th St.

Phone Circle 5335.

Carpenter and Safford,  
206 Huguenot St., New Rochelle.

GEORGE W. DAVIS MOTOR CAR CO. RICHMOND, INDIANA

Every detail of the Davis is of the same highest standard as these proved units. Witness the rigid, over-strong 6-inch frame; the sturdy, coach-built bodies; the superfine leather upholstery in the open models, and the rich, long-wearing fabric of finest quality in the enclosed models.

The brilliant, long-lasting Davis finish has won the admiration of the finest coach builders in the country. Davis style is distinctive—Davis quality is proved by comparison.

We invite you to come to our showroom and check the Davis point for point with any car sold. Compare it and then decide.

## NEW PRICES

Touring Car \$1695 Fleetway \$1895 Man o' War \$1895  
Sedan \$2595 Coupe \$2595

—at the factory, plus tax.

THESE PRICES EFFECTIVE OCTOBER 31, 1921